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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,834	09/17/2003	Jae-Hwan Hyun	1349.1295	2695
21171	7590	12/07/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			MORRISON, THOMAS A	
			ART UNIT	PAPER NUMBER
			3653	

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/663,834	HYUN, JAE-HWAN	
	Examiner	Art Unit	
	Thomas A. Morrison	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-34 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 5 and 7-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the duplex paper printing path" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

With regard to claim 7 and its dependent claims 8-10, it is unclear what elements make up the recited "paper sensor". Are the first, second and third levers part of the paper sensor? For example, sensor (120) in Fig. 2 of the instant application does not appear to sense paper. Rather, sensor (120) appears to sense the presence or absence of one of the levers. As such, the combination of the levers and the sensor (120) appears to be what senses the paper. In other words, it is the examiner's position that claim 7 inaccurately claims the first, second and third levers as separate elements from the claimed paper sensor set forth in claim 7.

Regarding claim 11 and its dependent claims 12-34, it is unclear in claim 11 how many different first slots there are in the duplex printing paper path. Line 2 of claim 11 recites "a first slot", and then line 8 of claim 11 also recites "a first slot".

Claim 23 recites the limitation "the second slot in the duplex printing paper path" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 34, this claim recites "the slot of a duplex printing paper shaft". This appears to be inaccurate. Rather, it appears that this claim should recite "the slot of the duplex printing paper path."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5 and 6, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's admitted prior art in Fig.1 and the background section of the instant application.

Regarding claim 1, Fig. 1 shows a paper detecting apparatus (including 10, 15, and 13) of an image forming machine (Fig. 1) having a duplex printing function (i.e., see numbered paragraph [0004] of instant application) including

an actuator (including 13) pivotably disposed above a paper feed cassette (30) and below a duplex printing paper path (40), that is moved by a paper; and

a paper sensor (15) disposed next to the actuator (including 13) that senses movement of the actuator (including 13) and generates a signal, wherein the actuator (including 13) pivots in a predetermined angle when no paper is stacked in the paper

feed cassette (30), and the paper sensor (15) generates a signal upon sensing the actuator (including 13) pivot.

Regarding claim 6, the numbered paragraph [0009] discloses that the paper sensor (15) is a photo sensor.

Turning now to claim 5, Fig. 1 also shows a paper detecting apparatus (including 20, 25, and 23) of an image forming machine (Fig. 1) having a duplex printing function (i.e., see numbered paragraph [0004] of instant application) including

an actuator (including 23) pivotably disposed above a paper feed cassette (30) and below a duplex printing paper path (40), that is moved by a paper; and

a paper sensor (25) disposed next to the actuator (including 23) that senses movement of the actuator (including 23) and generates a signal, wherein the actuator (including 23) pivots in a predetermined angle when paper is being fed along the duplex printing paper path (40), and the paper sensor (25) generates a signal upon sensing the actuator (including 23) pivot; and

a stopper (end of slot 42) formed on the duplex paper printing path (40) limiting pivoting space of the actuator (including 23). More specifically, the length of the swing slot 42 in Fig. 1 of the instant application defines the limits of the pivoting space of the actuator. As such, applicant's admitted prior art Fig. 1 and the background section of the instant application meets all of the limitations of claim 5 as now amended.

Response to Arguments

3. Applicant's arguments filed 09/02/2005 have been fully considered but they are not persuasive. In response to the indefiniteness rejection of claims 7-10, applicant argues, "By way of review, even though the sensor 120 does not detect a paper directly but it detects the presence of the paper indirectly. Therefore, it is respectfully submitted that is appropriate to refer a sensor 102 as a "paper sensor".

In response, it is noted that the combination of the levers and the sensor (120) appears to be what senses the paper. As such, it is the examiner's position that claim 7 inaccurately claims the first, second and third levers as separate elements from the claimed paper sensor in claim 7. Thus, the rejection of claims 7-10 has been repeated in this Office Action.

Regarding the prior art rejection of claims 1, 5 and 6 in view of applicant's admitted prior art in Fig. 1 and the background section, applicant argues that "the background of the present invention discloses two actuators and two sensors are used to detect paper in the paper feed cassette or is being fed along the duplex printing paper path but fails to disclose 'a paper sensor disposed next to the actuator that senses movement of the actuator and generates a signal, wherein the actuator pivots in a predetermined angle when no paper is stacked in the paper feed cassette or when paper is being fed along the duplex printing paper path, and the paper sensor generates a signal upon sensing the actuator pivot.' as recited in claim 1.

In response, it is first noted that claim 1 recites the term "or". As such, if the prior art discloses **either one** of the two recited functions in claim 1 (i.e., the actuator pivots

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in a predetermined angle **when** no paper is stacked in the paper feed cassette or **when** paper is being fed along the duplex printing paper path), such limitations of claim 1 are met by the prior art. Elements 10, 13 and 15 of applicant's admitted prior art Fig. 1 show the function in which the actuator (including 13) pivots in a predetermined angle when no paper is stacked in the paper feed cassette (30). Also, the numbered paragraph [0009] of the background section discloses that the first sensor (15) senses the movement of the sensor operator 12 (i.e., 12 being part of the actuator (including 13)) when there is no paper on the paper feed cassette (30). Moreover, the first sensor (15) inherently generates a signal, as claimed. In addition, the other elements of claim 1 are outlined in the prior art rejection of claim 1 above.

Allowable Subject Matter

4. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on (571) 272-6944. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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